

Title (en)

STRUCTURE AND METHOD OF MAKING SAME INVOLVING WELDING OTHERWISE NON-WELDABLE MATERIALS

Title (de)

STRUKTUR UND VERFAHREN ZUR HERSTELLUNG DAVON DURCH SCHWEISSEN VON ANSONSTEN NICHTSCHWEISSBAREN MATERIALIEN

Title (fr)

STRUCTURE ET SON PROCÉDÉ DE FABRICATION IMPLIQUANT LE SOUDAGE DE MATÉRIAUX AUTREMENT NON SOUDABLES

Publication

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Application

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Priority

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Abstract (en)

A structure (10,210) and a method of creating the structure (110,310) in which relatively thin pieces of non-weldable aluminum alloy (14,18, 214, 218) or other non-weldable material are welded together. First layers (22, 222) of a weldable material, such as a weldable aluminum alloy or other weldable material, having a total thickness of between 0,0254 and 0,762 cm [between 0.01 and 0.30 inches], are built up on a surface (28,228) of the first piece (12,212) using an ultrasonic or other solid state joining technique, and second layers (30,230) of the weldable material having a similar total thickness are built up on a surface of the second piece (16,216) using the same technique. The first piece (12, 212) is then welded to the second piece (16,216) at the first (22, 222) and second (30,230) layers of weldable material using a fusion welding technique. The resulting structure (10,210) may be part of an aircraft, landcraft, watercraft, or spacecraft type of vehicle or may be used in other high-performance applications.

IPC 8 full level

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Citation (search report)

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